A F/TW $

Confirmation No.: 9057

OIPE
SEP 15 2008
PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT: Robert H. Wollenberg

EXAMINER: Jeffrey S. Lundgren

SERIAL NO.: 10/779,419

GROUP ART UNIT: 1639

FILED: February 13, 2004

DOCKET NO.: T-6318A (538-69)

FOR: HIGH THROUGHPUT SCREENING METHODS FOR FUEL COMPOSITIONS

DATED: September 11, 2008

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPELLANTS' BRIEF

Sir:

Enclosed please find APPELLANTS' BRIEF.

Please charge Deposit Account No. 50-3591 to cover the appeal fee of $510.00.

Also, please charge any deficiency as well as any other fee(s) which may become due under 37 C.F.R. § 1.17, or credit any overpayment of such fee(s) to Deposit Account No. 50-3591. Also, in the event any additional extensions of time are required, please treat this paper as a petition to extend the time as required and charge Deposit Account No. 50-3591. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

~~09/15/2008 LTRUONG 00000047 10779419~~

~~01 FC:1402~~ ~~510.00 DP~~

Respectfully requested.

Michael E. Carmen
Reg. No. 43,533
Attorney for Applicants

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

TABLE OF CONTENTS

TABLE OF CASES AND STATUTORY AUTHORITIES

Confirmation No.: 9057

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT: Robert H. Wollenberg

SERIAL NO.: 10/779,419

FILED: February 13, 2004

FOR: HIGH THROUGHPUT SCREENING METHODS FOR FUEL COMPOSITIONS

EXAMINER: Jeffrey S. Lundgren

GROUP ART UNIT: 1639

DOCKET NO.: T-6318A (538-69)

DATED: September 11, 2008

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

Confirmation No.: 9057

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

APPLICANT: Robert H. Wollenberg

EXAMINER: Jeffrey S. Lundgren

SERIAL NO.: 10/779,419

GROUP ART UNIT: 1639

FILED: February 13, 2004

DOCKET NO.: T-6318A (538-69)

FOR: HIGH THROUGHPUT SCREENING METHODS FOR FUEL COMPOSITIONS

DATED: September 11, 2008

MAIL STOP APPEAL BRIEF-PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANT'S BRIEF

Sir:

In response to the final Office Action dated February 11, 2008 and the Advisory Action dated June 19, 2008, Applicant appeals pursuant to the Notice of Appeal filed on July 9, 2008 and received in the U.S. Patent and Trademark Office on July 11, 2008. Pursuant to 37 C.F.R. §41.37, one copy of this brief is submitted in connection with the appeal which has been taken herein.

CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postpaid in an envelope, addressed to the: MAIL STOP APPEAL BRIEF-PATENTS Commissioner for Patents, Alexandria, VA 22313-1450 on September 11, 2008.

Dated: September 11, 2008

Michael E. Carmen

(1) REAL PARTY IN INTEREST

The real party in interest for this application is Chevron Oronite Company LLC.

(2) RELATED APPEALS AND INTERFERENCES

There are no other related appeals or interferences for this application.

(3) STATUS OF CLAIMS

Claims 1-17, 62 and 63 are pending, stand rejected and are under appeal. All of these claims have been finally rejected and constitute the claims on appeal.

A copy of appealed Claims 1-17, 62 and 63 as pending is presented in the Appendix.

(4) STATUS OF AMENDMENTS

Appellant's claims were finally rejected in a final Office Action mailed February 11, 2008. Appellant's submitted a Response on May 12, 2008 in response to the final Office Action. An Advisory Action was mailed on June 19, 2008 in which the Examiner maintained the rejection of Claims 1-17, 62 and 63.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The present invention of the appealed claims directed to independent Claim 1 provides a high throughput method for screening fuel additive composition samples for deposit formation under program control (page 3, lines 8-11 and page 5, lines 10-12). The first step of the method of the present invention of the appealed claims includes providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive (page 3, lines

11-13, page 5, lines 15-22, page 6, line 15 through page 12, line 5 and page 14, line 19 through page 18, line 5). The second step of the method of the present invention of the appealed claims includes measuring the deposit formation of each sample to provide deposit formation data results for each sample (page 3, lines 13 and 14, and page 18, line 6 through page 21, line 7). The third step of the method of the present invention of the appealed claims includes outputting the results of step (b), i.e., the second step, (page 3, lines 14 and 15, and page 21, line 8 through page 22, line 22).

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The grounds of rejection presented in this appeal are the following:

(1) Claim 16 stands rejected under the second paragraph of 35 U.S.C. §112.

(2) Claims 1, 2 and 8 stand rejected under 35 U.S.C. §102(b) as being anticipated by Heneghan et al., JOURNAL OF ENGINEERING FOR GAS TURBINES AND POWER TRANSACTIONS OF THE ASME ("Heneghan et al.").

(3) Claims 1-6 and 8-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Cherpeck U.S. Patent No. 5,399,178 ("Cherpeck '178").

(4) Claims 1-6 and 8-11 stand rejected under 35 U.S.C. §102(b) as being anticipated by Cherpeck U.S. Patent No. 5,306,315 ("Cherpeck '315").

(5) Claims 1-6, 8-13, 15 and 17 stand rejected under 35 U.S.C. §103(a) as being obvious over Cherpeck '178 in view of Burow et al. U.S. Patent Application Publication No. 2002/0090320 ("Burow et al.").

(6) Claims 1-11, 62 and 63 stand rejected under 35 U.S.C. §103(a) as being obvious over Cherpeck '315.

(7) Claims 1-6, 8-15 and 17 stand rejected under 35 U.S.C. §103(a) as being obvious over Cherpeck '178 in view of Burow et al. and Luttermann et al. U.S. Patent No. 6,713,264 ("Luttermann et al.").

(7) ARGUMENT

A. Appealed Claim 16 Meets the Requirements of 35 U.S.C. §112, Second Paragraph

The Examiner has rejected Claim 16 under the second paragraph of 35 U.S.C. §112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is the Examiner's belief that Claim 16 as indefinite since it appears to have no positive, active steps. It is also the Examiner's belief that the term "basis" is confusing because it is not clear if this term is intended to provide any method steps. The Examiner goes on to state that"[t]he so-call limitation of 'using the results of step (b) as a basis for obtaining a result of further calculation' simply does not set forth a positive or definitive step as to what is being done with the data."

The Examiner refuses to acknowledge that it is a well established rule that "whether a claim is invalid for indefiniteness requires a determination whether those skilled in the art would understand what is claimed when the claim is read in light of the specification." *Morton International Inc.* v. *Cardinal Chemical Co.*, 28 USPQ2d 1190, 1194-95 (CAFC 1993). The specification clearly sets forth on page 6, lines 2-8 that adding the information related to the deposit formation data of each of the stored compositions, i.e., the results of step (b), substantially facilitates the selection of candidate compositions capable of successfully carrying out the deposit formation tests under the desired operating conditions or statutory requirements. Accordingly, storing this information in a combinatorial library not only allows for a rapid

selection of multiple fuel compositions in response to new requirements for a given test, but also becomes another piece of information in addition to, for example, storage stability, of the cataloged compositions. The specification further sets forth on page 6, lines 9 and 10 that this information, i.e., the results of step (b), may also allow for calculating necessary changes of the additives and fuels at the least cost. This clearly sets forth that the results of step (b) can be used as *a basis* in determining whether any changes in the additives and/or fuel used in the compositions needs to be adjusted in order to find the leading fuel compositions. As such, one skilled in the art would readily understand that the recitation "further comprising the step of using the results of step (b) as a basis for obtaining a result of further calculations" of the claimed method recites a positive active step when analyzing the contents of the specification. Therefore, appealed Claim 16 is sufficiently clear and definite as to comply with the requirements for definiteness under the second paragraph of 35 U.S.C. §112.

For the foregoing reasons, appealed Claim 16 complies with the requirements for definiteness under the second paragraph of 35 U.S.C. §112. Thus, withdrawal of rejection of appealed Claim 16 under the second paragraph of 35 U.S.C. §112 is respectfully requested.

B. Heneghan et al. Fail to Anticipate Appealed Claims 1, 2 and 8

Heneghan et al. disclose a study of jet fuel thermal stability (carbon deposition rate), dissolved oxygen consumption and methane production for three baseline jet fuels and three fuels blended with additives using a flowing, single-pass heat exchanger test rig. Heneghan et al. further disclose in item 4 on page 481, which is relied upon by the Examiner, that in order to measure the carbon deposition of the sample, the test section of the rig is removed, drained, cut into 25 mm or 50 mm length segments, rinsed with hexane, dried in a vacuum oven and analyzed

for carbon deposits on a Leco RC-412 multiphase carbon analyzer.

In contrast to the presently claimed invention, Heneghan et al. fail to disclose a high throughput method for screening fuel additive composition samples, under program control, within the scope of appealed Claim 1, comprising (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b).

It is well established that, for a claim to be anticipated, a single prior art reference must disclose each and every element of the claimed invention, *either expressly or inherently. Lewmar Marine, Inc. v. Barient, Inc.*, 827 F.2d 744, 747, 3 USPQ2d 1766, (Fed. Cir. 1987); *cert. denied*, 484 U.S. 1007 (1988). Certainly, Heneghan et al. fail to disclose each and every element of the presently recited high throughput method conducted under program control of appealed Claim 1. The Examiner, however, has refused to recognize that the high throughput method, as set forth in the present claims, is conducted under program control, i.e., automated, such that a relatively large number of different fuel additive composition samples can be rapidly prepared and screened for deposit formation data. Instead, it is the Examiner's belief that the instruments of Heneghan et al. are reasonably considered "high throughput" instruments in comparison to actually operating jets in the normal manner and testing them after years of flying. The Examiner maintains that the phrase "high throughput" is part of the preamble and bears very little patentable weight, if any, citing MPEP §2111.02 (the determination of whether a preamble limits a claim is made on a case-by-case basis in light of the facts in each case; there is no litmus test defining when a preamble limits the scope of a claim), *Catalina Mktg. Int'l v. Coolsavings.com Inc.*, 289 F.3d 801, 808, 62 USPQ2d 1781, 1785 (Fed. Cir. 2002) ("[i]f the claim preamble, when

read in context of the entire claim, recites limitations of the claim, or, if the claim preamble is necessary to give life, meaning, and vitality to the claim, then the claim preamble should be construed as if in the balance of the claim") and *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999).

The Examiner then goes on to state that the phrase "high-throughput" is at best, an intended use. In addition, the Examiner further considers the term to be a relative term referring to the rate at which samples are analyzed and does not necessarily require that thousands of samples be run in a timeframe of less than an hour. Thus, the Examiner considers Claim 1 to be directed to a "*method for screening fuel additives in fuel compositions by measuring deposit formation, and outputting the result*".

The Examiner's conclusion is clearly erroneous. It is well established that "[I]f the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Halliburton Energy Services Inc. v. M-I LLC*, 514 F3d 1244, 85 USPQ2d 1654, 1656 (Fed. Cir. 2008). Moreover, where the patentee has clearly indicated via the specification and the prosecution history that the invention provides an essential feature and that essential feature appears in a claim preamble, then that term as used in the preamble is "necessary to give life, meaning, and vitality to the claim," and may be used as a limitation. *MBO Laboratories Inc. v. Becton, Dickinson & Co.,* 474 F.3d 1323, 1330-31, 81 USPQ2d 1661, 1666 (Fed. Cir. 2007) *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 [51 USPQ2d 1161] (Fed. Cir. 1999) (quotation marks omitted).

As is the case here, the specification clearly sets forth that the recitations "high throughput" and "program control" are essential features of the claimed invention, i.e., a high throughput method for screening fuel additive composition samples, under program control. For example, the specification sets forth on page 3, lines 1-5:

> Accordingly, it would be desirable to rapidly screen a plurality of sample candidate fuel compositions for deposit formation tendencies utilizing small amounts of each sample. In this manner, a high throughput preparation and screening of a vast number of diverse compositions can be achieved to identify which additives and/or compositions have reduced deposit formation tendencies.

The specification further sets forth on page 4, line 20-23:

> The methods and systems of the present invention advantageously permit the screening of many different composition samples in an efficient manner to determine deposit formation tendencies of the samples, e.g., how fast deposits form, at what temperatures do deposits form and the weight of the deposits.

The specification likewise further sets forth on page 5, line 10 through page 6, line 14:

> The present invention is directed to a high throughput screening method for determining deposit formation tendencies of fuel additive compositions and fuel compositions containing such fuel additive compositions. The expression "high throughput" as used herein shall be understood to mean that a relatively large number of different fuel additive compositions or fuel compositions can be rapidly prepared and analyzed. In a first step of the screening method of the present invention, at least one fuel additive is introduced in a plurality of respective test receptacles so that each receptacle contains a different fuel additive composition having a different composition depending upon the percentage amounts and/or types of the additives combined in each receptacle.
>
> Alternatively, varying quantities of at least fuel and at least one fuel additive are introduced in a plurality of respective test reservoirs so that each reservoir contains a different fuel composition having a different composition

depending upon the percentage amounts and/or types of the additives combined with the fuel in each receptacle.

Data regarding the composition of each sample are stored in a data library. Adding the information related to the deposit formation data of each of the stored compositions substantially facilitates the selection of candidate compositions capable of successfully carrying out the deposit formation tests under the desired operating conditions or statutory requirements. Accordingly, storing this information in the combinatorial library not only allows for a rapid selection of multiple fuel compositions in response to new requirements for a given test, but also becomes another piece of information in addition to, for example, storage stability, of the cataloged compositions. This information may also allow for calculating necessary changes of the additives and fuels at the least cost. The procedure is advantageously accomplished under program control and automatically controlled by, for example, a microprocessor or other computer control device. The expression "program control" as used herein shall be understood to mean the equipment used herein in providing the plurality of fuel compositions is automated and controlled by a microprocessor or other computer control device.

The specification still further sets forth on page 18, line 6 through page 19, line 16:

Once the plurality of receptacles have been provided containing fuel compositions, the plurality of fluid samples can then be analyzed for deposit forming tendencies. Referring now to FIG. 2, a system for sequentially analyzing a plurality of fluid samples for deposit formation is schematically illustrated. The samples can include fuel additive compositions containing at least one fuel additive or fuel compositions containing one or more fuels and one or more fuel additives, such as those described herein.

System 200 is schematically illustrated wherein an array of test receptacles 212 are mounted in a holder 215. The system 200 is adapted to accommodate any number of test receptacles 212 (and samples). Each sample is identifiable, for example, by the position of its test

> receptacle in an ordered array in holder 215, or more preferably by having an identifying mark associated with it. For example, each test receptacle 212 can include an identifying bar code 213 affixed to the outer surface thereof. A bar code reader 225 is positioned so as to be able to read the individual bar codes of the respective test receptacles 212 and to transmit a bar code data signal to a computer controller 230 via a data transmission line 226 to electronically identify the sample. The bar code reader 225 is preferably movable with respect to the holder 215 in response to a signal from computer controller 230 so as to be positionable in alignment with selected individual test receptacles 212.
>
> A robotic assembly 250 includes a movable arm 251 with a grasping mechanism 252. The robotic assembly is adapted to grasp an individual test receptacle 212 in accordance with selection instructions from computer controller 230 and move the test receptacle to a position in testing station 220 so that the sample in the receptacle can be measured for deposit formation data. The computer controller 230 is operatively associated with controls to the robotic assembly via control signal transmission line 231 to selectively retrieve predetermined test receptacles for measurement and then replace them in their assigned respective positions in the holder 215.
>
> Testing station 220 includes means for testing the samples for deposit formation. Deposit formation data results of the test are converted to an electrical or optical signal and transmitted via signal transmission line 223 to computer controller 230. Various means for deposit formation testing are known and generally include subjecting the sample to a deposit formation environment and measuring the deposit formation of the sample over a predetermined period of time.

Clearly, then, the specification stresses that the recitations "high throughput" and "program control" are essential features of the method set forth in the appealed claims in order for a relatively large number of different fuel additive composition samples to be rapidly prepared, screened for deposit formation data and output the data. As such, the recitations "high

throughput" and "program control" as recited in the preamble of appealed Claim 1 can only be regarded as necessary to give life, meaning, and vitality to the claim and may therefore be used as a limitation. Accordingly, the recitation "high throughput method for screening fuel additive composition samples for deposit formation, under program control" in appealed Claim 1 must be considered when determining patentability of the appealed claims.

Appellant also believes that the Examiner is narrowly construing the preamble of Claim 1 by only looking at the term "high throughput". In contrast, the preamble of Claim 1 recites "high throughput method for screening fuel additive composition samples, under program control". As is the case here, the recitation "high throughput method for screening fuel additive composition samples, under program control" as presently recited in Claim 1 is necessary to give life, meaning and vitality to the present claims as the purpose of the claims is to conduct a high throughput method under program control, i.e., automated, such that a relatively large number of different fuel additive composition samples can be rapidly prepared and screened for deposit formation data. Certainly, Heneghan et al. do not disclose anything that would remotely be considered a high throughput method. In contrast, Heneghan et al. merely disclose the study of jet fuel thermal stability (carbon deposition rate), dissolved oxygen consumption and methane production for three baseline jet fuels and three fuels blended with additives using a flowing, single-pass heat exchanger test rig. In fact, Heneghan et al. further disclose in item 4 on page 481, which is relied upon by the Examiner, that in order to measure the carbon deposition of the sample, the test section of the rig is removed, drained, cut into 25 mm or 50 mm length segments, rinsed with hexane, dried in a vacuum oven and analyzed for carbon deposits on a Leco RC-412 multiphase carbon analyzer. Thus, Heneghan et al. do not disclose all of the elements and limitations of the claimed invention.

Accordingly, nothing in Heneghan et al., which has been relied upon by the Examiner, even remotely discloses a high throughput method for screening fuel additive composition samples, under program control, comprising the steps of (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b), as presently recited in appealed Claim 1. In contrast, Heneghan et al. simply disclose a study of jet fuel thermal stability (carbon deposition rate), dissolved oxygen consumption and methane production for three baseline jet fuels and three fuels blended with additives using a flowing, single-pass heat exchanger test rig. Therefore, Heneghan et al. do not disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and in contrast to Federal Circuit precedent.

Additionally, nothing in Heneghan et al. teach the limitations of appealed dependent Claims 2 and 8.

As set forth above, the presently claimed high throughput method for screening lubricating oil composition samples for compatibility with elastomers under program is different than the disclosure in Heneghan et al. Accordingly, appealed Claims 1-3, 5-9, and 21 are clearly novel over Heneghan et al. Thus, withdrawal of the rejection of appealed Claims 1-3, 5-9, and 21 under 35 U.S.C. §102(b) is respectfully requested.

C. Cherpeck '178 Fails to Anticipate Appealed Claims 1-6 and 8-11

Cherpeck '178 likewise does not disclose each and every element of claimed invention. Specifically, Cherpeck '178 does not disclose a high throughput method for screening fuel additive composition samples, under program control, within the scope of appealed Claim 1,

comprising (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b).

As with Heneghan et al., the Examiner likewise alleges that the recitations "high throughput" and "program control" deserve no patentable weight because the recitations are in the preamble of the claim in rejecting Claims 1-6 and 8-11 over Cherpeck '178. Appellant submits that for the reasons discussed above, the recitations "high throughput" and "program control" as recited in the preamble of appealed Claim 1 can only be regarded as necessary to give life, meaning, and vitality to the claim and may therefore be used as a limitation. Thus, the recitation "high throughput method for screening fuel additive composition samples, under program control" in appealed Claim 1 must be considered when determining patentability of the appealed claims.

Accordingly, Cherpeck '178 is no more an anticipatory reference than Heneghan et al. In contrast to the presently claimed invention, Cherpeck '178 discloses that certain Mannich condensation products provide excellent control of engine deposit, including intake valve deposits, with fewer combustion chamber deposits when employed as fuel additives. Cherpeck '178 further discloses in Example 3, which is relied upon by the Examiner, that the deposit reducing capacity of a Mannich condensation product blended in gasoline were determined in an ASTM/CFR single-cylinder engine test by running the engine for 15 hours, removing the intake valve, washing the intake valve with hexane and weighing it. Thus, Cherpeck '178 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. At no point, however, is there any disclosure in Cherpeck '178 of a high throughput method for screening a plurality of fuel additive samples for deposit formation. Cherpeck '178

therefore cannot possibly disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and in contrast to Federal Circuit precedent.

Additionally, nothing in Cherpeck '178 teaches the limitations of appealed dependent Claims 2-6 and 8-11.

As set forth above, the presently claimed high throughput method for screening fuel additive composition samples under program is different than the disclosure in Cherpeck '178. Accordingly, appealed Claims 1-6 and 8-11 are clearly novel over Cherpeck '178. Thus, withdrawal of the rejection of appealed Claims 1-6 and 8-11 under 35 U.S.C. §102(b) is respectfully requested.

D. Cherpeck '315 Fails to Anticipate Appealed Claims 1-6 and 8-11

Cherpeck '315 likewise does not disclose each and every element of the claimed invention. Specifically, Cherpeck '315 does not disclose a high throughput method for screening fuel additive composition samples, under program control, within the scope of appealed Claim 1, comprising (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b).

As with Heneghan et al. and Cherpeck '178, the Examiner likewise alleges that the recitations "high throughput" and "program control" deserve no patentable weight because the recitations are in the preamble of the claim in rejecting Claims 1-6 and 8-11 over Cherpeck '315. Appellant submits that for the reasons discussed above, the recitations "high throughput" and "program control" as recited in the preamble of appealed Claim 1 can only be regarded as necessary to give life, meaning, and vitality to the claim and may therefore be used as a

limitation. Thus, the recitation "high throughput method for screening fuel additive composition samples, under program control" in appealed Claim 1 must be considered when determining patentability of the appealed claims.

Accordingly, Cherpeck '315 is no more an anticipatory reference than Heneghan et al. and Cherpeck '178. In contrast to the presently claimed invention, Cherpeck '315 discloses novel poly(vinyl ether) amines and their use in fuel compositions to prevent and control engine deposits. Cherpeck '315 further discloses in Example 14, which is relied upon by the Examiner, that the thermal stability of various test samples was measured by thermogravimetric analysis (TGA) employing a DuPont 951 TGA instrument coupled with a microcomputer for data analysis. Each example carried out by Cherpeck '315 is a manual laboratory test. At no point is there any disclosure in Cherpeck '315 of a high throughput method for screening a plurality of fuel additive samples for deposit formation. As stated hereinabove, the high throughput method, as set forth in the appealed claims, is conducted under program control such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. By comparison, Cherpeck '315 merely discloses individually testing fuel compositions for deposit formation via a non-automated process. As such, Cherpeck '315 cannot possibly disclose all of the elements and limitations of the appealed claims. Accordingly, the Examiner's position is untenable and in contrast to Federal Circuit precedent.

Additionally, nothing in Cherpeck '178 teaches the limitations of appealed dependent Claims 2-6 and 8-11.

As set forth above, the presently claimed high throughput method for screening fuel additive composition samples under program is different than the disclosure in Cherpeck '315. Accordingly, appealed Claims 1-6 and 8-11 are clearly novel over Cherpeck '315. Thus, withdrawal of the rejection of appealed Claims 1-6 and 8-11 under 35 U.S.C. §102(b) is respectfully requested.

E. The Combined Disclosures of Cherpeck '178 and Burow et al. Fail to Establish the *Prima Facie* Obviousness of the Method of Appealed Claims 1-6, 8-13, 15 and 17

The deficiencies of Cherpeck '178 discussed above with respect to the rejection of Claim 1 apply with equal force to this rejection. Burow et al. is no more relevant a reference than Cherpeck '178 and does not cure and is not cited as curing the deficiencies of Cherpeck '178. In fact, nothing in Burow et al. even remotely discloses a high throughput method for screening fuel additive composition samples for deposit formation, under program control, comprising the steps of (a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive; (b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and, (c) outputting the results of step (b) as presently recited in appealed Claim 1. In order to cure the deficiencies of Cherpeck '178, the Examiner alleges:

> "Those of ordinary skill in the art of analytical chemistry, are typically well-versed in routine automation procedures and general computer implementation, as set forth in claims 12, 13, 15 and 17, as demonstrated by Burow. It is a stretch to suggest that the use of machines and computers belongs exclusively to those who perform analysis of the type of samples taught by Burow, or that such automation has not broken through to the claimed art and been well-recognized by those who develop and screen new fuel additive samples as taught by Cherpeck.

> In fact Burow quite clearly states that this is not the case as suggested by Applicants:
>
>> '**Automated processing systems are useful in many applications and fields.** For example, automated laboratory systems are used in biotechnology and biomedical industries, e.g., for producing large numbers of samples and screening these samples for a desired property. Such samples include, but are **not limited to, chemicals, cells, cell extracts, or genetic material such as cDNA, retroviruses, or anti-sense oligonucleotides.**'
>
> Burow, col. 1, paragraph 0003 (Original Emphasis)."

As is the case here, Burow et al. do not disclose that a fuel additive composition sample can be screened in a high throughput manner under program control or, for that matter, that a fuel additive composition sample can be screened for deposit formation in a high throughput manner under program control. It is the Examiner's misguided belief that Example 3 of Cherpeck '178 teaches testing multiple fuel samples by measuring their deposit formation. Therefore, according to the Examiner:

> "One of ordinary skill in the art would have had a reasonable expectation of success in arriving at the invention as claimed because Cherpeck and Burow are directed to using analytical laboratory instrumentation for chemical analysis. One of ordinary skill in the art would have recognized the advantages of using generic and routine robotic based systems, computers, and remote operations as taught by Burow for the types of chemical analysis of Cherpeck because of the increase throughput provided by these assemblies when dealing with voluminous sample sizes. Accordingly, the invention as a whole is prima facie obvious over the art of record."

However, Example 3 of Cherpeck '178 discloses individually testing each fuel sample by running each test in an engine. As such, there is simply no reason why one skilled in the art would even look to Cherpeck '178 and Burow et al. In fact, even by combining Cherpeck '178 with Burow et al. one skilled in the art would not even arrive at the claimed invention. With this

said, nothing in Burow et al. would lead one skilled in the art to look to the disclosure of Burow et al. to modify the disclosure of individually testing the deposit reducing capacity of a Mannich condensation product blended in gasoline by running an ASTM/CFR single-cylinder engine of Cherpeck '178 and arrive at the high throughput method, as set forth in the present claims, conducted under program control, such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. The Examiner can only arrive at his erroneous conclusion by using Appellant's disclosure as a guide to piece together the claimed invention.

Accordingly, appealed Claims 1-6, 8-13, 15 and 17 are clearly nonobvious, and are therefore patentable, over Cherpeck '178 and Burow et al. Thus, withdrawal of the rejection of appealed Claims 1-6, 8-13, 15 and 17 under 35 U.S.C. §103(a) is respectfully requested.

F. Cherpeck '315 Fails to Establish the *Prima Facie* Obviousness of the Method of Appealed Claims 1-11, 62 and 63

The deficiencies of Cherpeck '315 discussed above with respect to the rejection of Claim 1 apply with equal force to this rejection. To make out a case of *prima facie* obviousness, the Examiner maintains:

> "One of ordinary skill in the art would have had a reasonable expectation of success in arriving at the invention as claimed because Cherpeck 2 teaches the analysis of fuel samples using TGA with an approximate sample size reasonably close to the claimed sample size, especially given the claimed language of "about" in claims 62 and 63 (MPEP §2144.05). Therefore, the invention as a whole was *prima facie* obvious at the time it was made."

In contrast to the Examiner's position, each example carried out by Cherpeck '315 is a manual laboratory test. As such, there is simply no reason why one skilled in the art would even look to

Cherpeck '315. There is nothing in Cherpeck '315 that would lead one skilled in the art to modify the manual test of Cherpeck '315 and arrive at a high throughput method for screening a plurality of fuel additive samples for deposit formation. As stated hereinabove, the high throughput method, as set forth in the appealed claims, is conducted under program control such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation. By comparison, Cherpeck '315 merely discloses individually testing fuel compositions for deposit formation that is not under program control. The Examiner can only arrive at his erroneous conclusion by using Appellant's disclosure as a guide to piece together the claimed invention.

Accordingly, appealed Claims 1-11, 62 and 63 are clearly nonobvious, and are therefore patentable, over Cherpeck '315. Thus, withdrawal of the rejection of appealed Claims 1-11, 62 and 63 under 35 U.S.C. §103(a) is respectfully requested.

G. The Combined Disclosures of Cherpeck '178, Burow et al. and Luttermann et al. Fail to Establish the *Prima Facie* Obviousness of the Method of Appealed Claims 1-6, 8-15 and 17

The deficiencies of Cherpeck '178 and Burow et al. discussed above with respect to the rejection of appealed Claim 1 apply with equal force to this rejection. Luttermann et al. do not cure and is not cited as curing the deficiencies of Cherpeck '178 and Burow et al. In contrast, Luttermann et al. are merely cited for the disclosure of combinatorial approaches using decision making processes for selection of positive samples for further testing. Thus, even by combining Cherpeck '178, Burow et al. and Luttermann et al., one skilled in the art would not even arrive at the claimed invention. Accordingly, nothing in Luttermann et al. would lead one skilled in the art to look to the disclosure of Luttermann et al. to modify the disclosures of Burow et al. and

Cherpeck '178 and arrive at the high throughput method, as set forth in the appealed claims, conducted under program control, such that a relatively large number of different fuel additive samples can be rapidly prepared and screened for deposit formation with any expectation of success. The Examiner can only arrive at such a conclusion by using Appellant's disclosure as a guide to piece together the claimed invention.

Accordingly, appealed Claims 1-6, 8-15 and 17 are clearly nonobvious, and are therefore patentable, over Cherpeck '178, Burow et al. and Luttermann et al. Thus, withdrawal of the rejection of appealed Claims 1-6, 8-15 and 17 under 35 U.S.C. §103(a) is respectfully requested.

H. CONCLUSION

For the foregoing reasons and for all of the reasons of record, it is submitted that appealed Claims 1-17, 62 and 63 are patentable over the prior art relied upon by the Examiner. Reversal of the final rejections by the Board is therefore believed to be warranted, such being respectfully requested.

Respectfully submitted,

Michael E. Carmen
Reg. No. 43,533
Attorney for Appellant

M. CARMEN & ASSOCIATES, PLLC
170 Old Country Road – Suite 400
Mineola, NY 11501
Phone: (516) 992-1848
Facsimile: (516) 739-0981
MEC:bg

(8) CLAIMS APPENDIX

1. (Previously Presented) A high throughput method for screening fuel additive composition samples, under program control, comprising:

(a) providing a plurality of different fuel additive composition samples, each sample comprising at least one fuel additive;

(b) measuring the deposit formation of each sample to provide deposit formation data results for each sample; and,

(c) outputting the results of step (b).

2. (Previously Presented) The method of claim 1, wherein the at least one fuel additive is selected from the group consisting of detergents, cetane improvers, octane improvers, emission reducers, antioxidants, carrier fluids, metal deactivators, lead scavengers, rust inhibitors, bacteriostatic agents, corrosion inhibitors, antistatic additives, drag reducing agents, demulsifiers, dehazers, anti-icing additives, dispersants, combustion improvers and mixtures thereof.

3. (Original) The method of claim 1, wherein the at least one fuel additive is a detergent.

4. (Original) The method of claim 3, wherein the detergent is selected from the group consisting of aliphatic hydrocarbyl amines, hydrocarbyl-substituted poly(oxyalkylene) amines, hydrocarbyl-substituted succinimides, Mannich reaction products, nitro and amino aromatic esters of polyalkylphenoxyalkanols, polyalkylphenoxyaminoalkanes and mixtures thereof.

5. (Previously Presented) The method of claim 1, wherein the step of measuring the deposit formation of each sample comprises heating the sample to a first predetermined temperature and determining the weight loss of the sample after a first predetermined period of time.

6. (Original) The method of claim 5, wherein the predetermined temperature is from about 100°C to about 450°C and the predetermined period of time is from about 2 minutes to about 1 hour.

7. (Original) The method of claim 5, wherein the weight loss of the sample is determined by thermal gravimetric analysis.

8. (Original) The method of claim 5, wherein the step of heating the sample is conducted in the presence of air.

9. (Previously Presented) The method of claim 5, wherein the step of measuring the deposit formation of each sample comprises heating the sample to the first predetermined temperature and determining the weight loss of the sample after the first predetermined period of time and then heating the sample to a second predetermined temperature and determining the weight loss of the sample after a second predetermined period of time.

10. (Previously Presented) The method of claim 9, wherein the second predetermined

temperature is higher than the first predetermined temperature.

11. (Original) The method of claim 1, wherein the fuel additive composition further comprises an inert solvent.

12. (Original) The method of claim 1, wherein a robotic assembly selectively retrieves the samples from an array of samples and individually positions the samples in a testing station for determination of the deposit formation.

13. (Original) The method of claim 12, wherein said robotic assembly is controlled by a computer.

14. (Original) The method of claim 1, wherein in step (c) the results of step (b) for each sample are transmitted to a computer, wherein the computer compares the results with a predetermined value delimiting a failure or passing of the results, and the computer identifies failed samples to preclude further testing of the failed samples.

15. (Original) The method of claim 1, wherein the step of outputting comprises storing the results of step (b) on a data carrier.

16. (Original) The method of claim 1, further comprising the step of using the results of step (b) as a basis for obtaining a result of further calculations.

17. (Original) The method of claim 1, further comprising the step of transmitting the results of step (b) to a data carrier at a remote location.

18-61. (Cancelled)

62. (Previously Presented) The method of Claim 1, wherein the fuel additive composition samples each contain less than about 50 ml.

63. (Previously Presented) The method of Claim 1, wherein the fuel additive composition samples each contain less than about 20 ml.

(9) EVIDENCE APPENDIX

The Appellant does not submit any further evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132.

(10) RELATED PROCEEDINGS APPENDIX

No decision rendered by a court or Board in any proceeding identified pursuant to 37 C.F.R. § 41.38 (c)(1)(ii) are known to the Appellant.